



# Fluor Hanford – Nuclear Material Stabilization Project Plutonium Finishing Plant



**Report from the DOE  
Voluntary Protection Program  
Onsite Review, August 26-29, 2002**



**U.S. Department of Energy**  
Office of Environment, Safety and Health  
Office of Safety and Health  
Office of Regulatory Liaison

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## Abbreviations and Acronyms

<b>AJHA</b>	Automated Job Hazard Analysis
<b>ALARA</b>	As Low As Reasonably Achievable
<b>COE</b>	Center of Expertise
<b>DZAC</b>	Department Zero Accident Council
<b>DOE</b>	U. S. Department of Energy
<b>HSO</b>	Hanford Site Operations
<b>EJTA</b>	Employee Job Task Analysis
<b>EP</b>	Emergency Preparedness
<b>ES&amp;H</b>	Environment, Safety and Health
<b>ESH&amp;Q</b>	Environment, Safety, Health & Quality
<b>FEB</b>	Facility Evaluation Board
<b>FH</b>	Fluor Hanford
<b>FY</b>	Fiscal Year
<b>HAMMER</b>	Hazardous Materials Management and Emergency Response
<b>HAMTC</b>	Hanford Atomic Metal Trades Council
<b>HEHF</b>	Hanford Environmental Health Foundation
<b>HFD</b>	Hanford Fire Department
<b>HGET</b>	Hanford General Employee Training
<b>HGU</b>	Hanford Guards Union
<b>ISMS</b>	Integrated Environment, Safety and Health Management System
<b>ITEM</b>	Integrated Training Electronic Matrix
<b>JCS</b>	Job Control System
<b>JHA</b>	Job Hazard Analysis
<b>JSA</b>	Job Safety Analysis
<b>MAP</b>	Management Assessment Plan
<b>OJE</b>	On-the-job Evaluation
<b>OJT</b>	On-the-job Training

<b>OSHA</b>	Occupational Safety and Health Administration
<b>PNNL</b>	Pacific Northwest National Laboratory
<b>PIC</b>	Person in Charge
<b>PFP-ZAC</b>	Plutonium Finishing Plant Zero Accident Council
<b>PM</b>	Preventive Maintenance
<b>POC</b>	Point-of-Contact
<b>PPE</b>	Personal Protective Equipment
<b>PTH</b>	Protection Technology Hanford
<b>PZAC</b>	President's Zero Accident Council
<b>RCT</b>	Radiation Control Technician
<b>RL</b>	Richland Operations Office
<b>RWP</b>	Radiation Work Permit
<b>Safety Expo</b>	Hanford Health and Safety Exposition
<b>SAR</b>	Safety Analysis Report
<b>SBMS</b>	Standards Based Management System
<b>SIC</b>	Standard Industry Code
<b>SIP</b>	Safety Improvement Plan
<b>SOE</b>	Systems Operating Engineer
<b>SNM</b>	Special Nuclear Material
<b>VPP</b>	Voluntary Protection Program

## Applicant Overview

### Fluor Hanford, Inc. (FH)

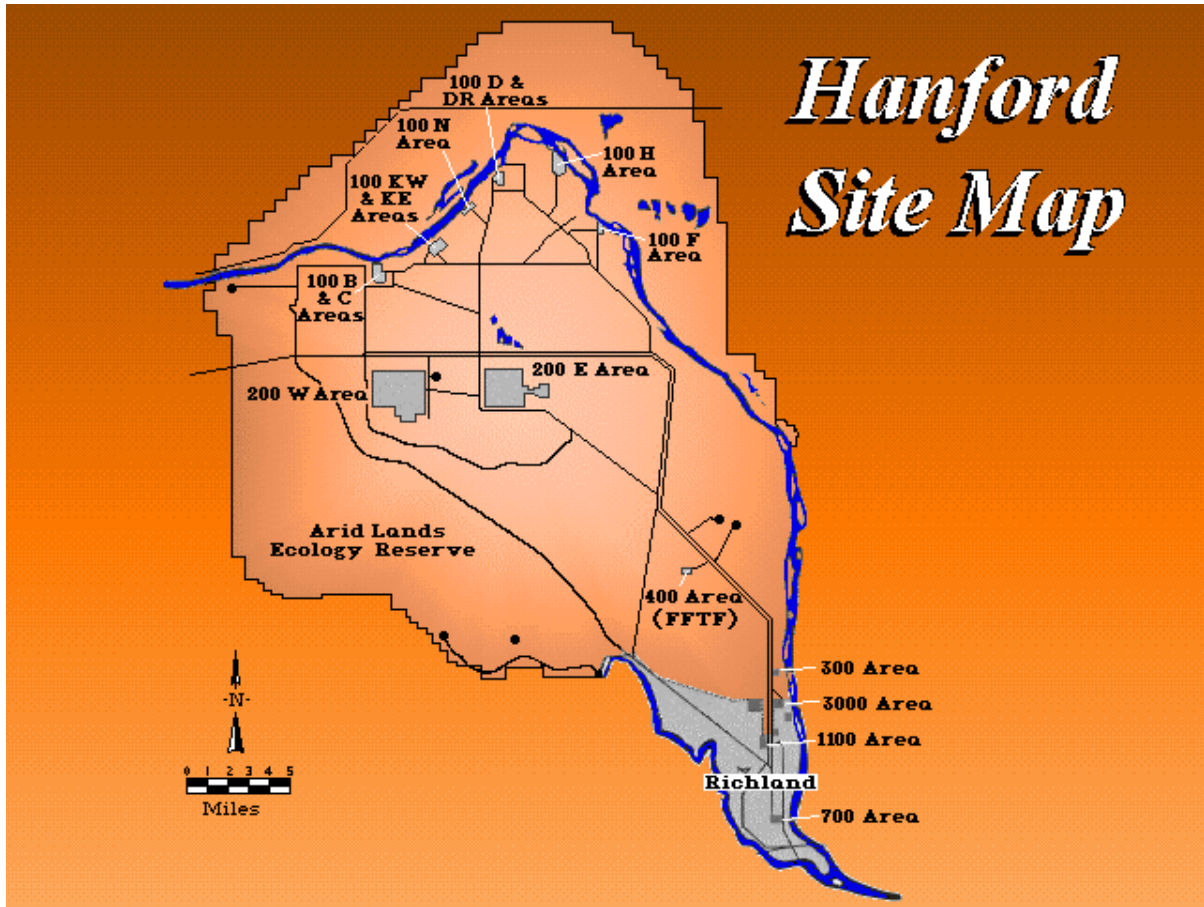
As the primary management contractor for Project Hanford, Fluor Hanford, Inc. (FH) has the ultimate responsibility for the entire project with emphasis on safety, high quality of work and performing all functions on time. The President & Chief Executive Officer of FH is Mr. E. Keith Thomson, and the Vice President of the Nuclear Material Stabilization Project (NMSP) is Mr. George W. Jackson.

The main offices for Fluor Hanford, Inc., at Project Hanford in Richland, Washington are:

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The location of the Plutonium Finishing Plant (PFP) at the Hanford site is shown in the figure on the next page. The PFP/NMSP has approximately 510 employees including 248 bargaining unit employees, 194 exempt employees, 20 non -exempt employees, and 47 Managers. In August 2000, FHI completed implementation of Integrated Safety Management System (ISMS).



## Executive Summary

The Department of Energy's Voluntary Protection Program (DOE-VPP) onsite review of the Fluor Hanford – Nuclear Material Stabilization Project (NMSP)/Plutonium Finishing Plant (PFP) was conducted from August 26-29, 2002, in Richland, Washington. Fluor Hanford has operated PFP for the Department of Energy (DOE) since October 1999. The following summarizes the review team's observations and analyses.

### **A. MANAGEMENT LEADERSHIP**

The DOE-VPP Onsite Review Team (Team) found clear evidence that managers are committed to continually improving the safety and health (S&H) program. Management and employees have developed an effective working relationship based on mutual respect and cooperation. The Team noted that senior management demonstrated a strong commitment to worker protection, and programs are in place to hold management both responsible and accountable for maintaining a safe workplace. Managers, supervisors and employees, with the exception of bargaining unit employees, are given annual performance appraisals that evaluate their performance in the safety and health area. Top-level management is held accountable for completing actions identified in the annual Safety Improvement Plan (SIP). The Hanford Atomic Metals Trade Council (HAMTC) Safety Representative Program has been effectively implemented at PFP, and ensures that management and craft employees work together to identify and correct safety issues. The Team found that the management of Fluor Hanford /NMSP meets the criteria of the Management Leadership element of the DOE VPP.

### **B. EMPLOYEE INVOLVEMENT**

The Team found that employees are involved in the development and implementation of the facility's S&H program through participation in safety committee meetings such as the Employee Zero Accident Council and other committees. The team also found that the use of "Safety Log Books," which are placed throughout the facility, were an effective method of addressing employee safety concerns. The fundamental attributes necessary to support employee involvement are in place. Employees have been given stop work authority and interviewed employees did not feel that they were in danger of retaliation for using this authority or for making safety-related complaints. Employees were aware of the company's safety and health program, the Voluntary Protection Program (VPP) activities for this operation and the various safety committees that are used to monitor safety and health performance.

The Team found during interviews, that employees had a sense of ownership for the safety program as it applied to their work. Notably, the employees interviewed by the Team,

reported that NMSP has made significant progress over the last two years in improving employee involvement. However, during employee interviews, workers observed that even in the face of safety improvements a tendency to place production over safety still lingers within this operation. Additionally, based on experience with other VPP facilities, the team believes that worker involvement is not yet at the highest level expected for a VPP facility. Accordingly, the team believes that the applicant needs to additionally strengthen worker involvement.

Specifically, NMSP may consider the following opportunities for improved employee involvement:

- Enhancing safety training universally in employee hazard recognition;
- Enhancing general participation of more employees in walk around inspection activities; and
- Encouraging broader employee participation in AJHA meetings while emphasizing the need for allowing adequate time for employees to review and critique pending AJHA's.

## **C. WORKSITE ANALYSIS**

Worksite analysis processes at PFP effectively identify and characterize hazards so that they may be prevented or mitigated. Crafts, engineers, maintenance personnel and subject matter experts collaborate on JHAs to ensure a thorough analysis of system hazards. Employee Job Task Analyses (EJTAs) are utilized to match employees with work tasks, and are reviewed by an industrial hygienist. Industrial hygienists provide active risk based monitoring and personal exposure monitoring in the workplace. In most cases, management, employees and S&H professionals are, collaboratively, involved in conducting self-inspections, which include assessment of safety, health, fire protection, and emergency preparedness. In addition, the Facility Evaluation Board (FEB) conducts an independent assessment of PFP every other year on behalf of the employer. Employees are encouraged to report any unsafe conditions, and they are usually included as active team members in identifying resolutions. Accident investigation processes involve employees and result in an analysis to determine the root cause. Identified hazards are immediately addressed with corrective actions. S&H performance and trending information is developed and reviewed monthly and utilized to target future S&H program improvements. In the area of worksite analysis, the applicant meets all of DOE-VPP expectations.

## D. HAZARD PREVENTION AND CONTROL

PFP maintains highly qualified S&H professionals, and also depends on other experts from across the Hanford site to complement their in-house experts. S&H rules have been thoroughly documented and are known and understood by employees and managers. Hazards are controlled through use of engineering controls, work practice guidelines, and appropriate personal protective equipment (PPE). The PPE program protocols ensure that appropriate PPE is required only if hazards cannot otherwise be eliminated from the workplace. Employees indicated that they are adequately provided with the necessary PPE to complete their jobs safely. PFP has implemented a comprehensive preventive maintenance (PM) program that uses a combination of preventive, predictive, and corrective maintenance to ensure the availability, operability, and reliability of plant structures, systems and components. The site has well functioning emergency preparedness, radiation protection, and medical programs, and they demonstrate an effective and integrated approach. The applicant meets the DOE-VPP expectations for hazard prevention and control.

## E. SAFETY AND HEALTH TRAINING

The Team noted from employee interviews and document reviews that employees clearly understood the hazards associated with their jobs and received adequate S&H training to facilitate safe job practices. On-the-job (OTJ) training is used extensively across the site, and employees are not expected to perform a job alone until they feel confident that they can complete it safely. Line management is responsible for identifying the training needs of their employees, based on the location and nature of an employees' job assignment. Formal hazard recognition training is available for employees as well as classroom training on site procedures and processes.

Management clearly supports the S&H training programs as evidenced by employee interviews, funding levels, and documentation reviews. One noteworthy practice identified by the team was the use of iPIX technology, which allows facilities to be viewed remotely. This technology is used to allow employees and management to conduct planning and training without the risk of radiological or other occupational exposure. The applicant clearly meets the criteria for training, however, one noted weakness relates to hazard recognition training for a limited group of employees that is discussed under the employee involvement section of this report.



A Fluor Hanford scientist examines one of 1,600 polycubes to be stabilized. The two-inch cubes are stabilized in the same furnace used to stabilize other plutonium-bearing materials.

## **F. CONCLUSION**

The Team concluded that the applicant fully met the criteria of four of the five DOE-VPP tenets. The “Employee Involvement” element of DOE-VPP, as noted above, warrants further attention. The team encourages NMSP to utilize all readily available opportunities to further develop and enhance employee involvement at this facility. Accordingly, the Team’s technical opinion as documented in this report is presented to the DOE-VPP Program Administrator for consideration.

# I. Introduction



Workers performing tests around Tank 361, which has plutonium-bearing sludge remaining in the bottom.

The DOE-VPP onsite review of the Fluor Hanford's NMSP/PFP was conducted from August 26 - 29, 2001 in Richland, Washington. Fluor Hanford has operated the PFP for the DOE since October 1999. The PFP is located in the 200 West Area of the Hanford site. For almost 50 years, the 200 West Area was a center of nuclear weapons material fabrication. These activities resulted in highly contaminated facilities with a large inventory of nuclear materials. One of the greatest environmental, safety and health risks at PFP is due to 18 metric tons (approximately) of plutonium in various forms, such as metal, oxides, solutions, polycubes and residues. Recently, PFP's

mission changed to nuclear material stabilization and moving toward D&D in the next one or two years.

The NMSP/PFP/FH reports to the DOE Richland Operations Office and the Office of Environmental Management.

Fluor Hanford successfully completed its Integrated Safety Management System (ISMS) Phase II verification in FY2000 and was subject to an evaluation by Fluor Hanford's Facility Evaluation Board (FEB) in December 2000. PFP received a satisfactory rating for all areas assessed including occupational safety and health and training.

NMSP was evaluated against the program requirements of the DOE-VPP. The On-site DOE-VPP Evaluation Team consisted of a diverse cross-section of individuals from the DOE Headquarters office, OSHA Region X office, and Richland. (See the Appendix for a roster of the DOE Onsite Review Team.) During their review, the Team walked through the facility, conducted formal and informal interviews, and conducted a limited review of documentation.

The Standard Industry Code (SIC) for PFP is #4953, Refuse Systems. Since the Bureau of Labor Statistics (BLS) does not publish data for this four-digit level industry, SIC 495 – Sanitary Services, data were used for comparison. The injury/illness rates reported by PFP show that they are below the known rates for comparable industries. Submitted rates meet the DOE-VPP criteria.

<b>Nuclear Material Stabilization Project Injury Incidence/Lost Workday Case Rate</b>					
<b>Calendar Year</b>	<b>Hours Worked</b>	<b>Total Recordable Cases</b>	<b>Total Recordable Case Incidence Rate</b>	<b># of Lost or Restricted Workday Cases</b>	<b>Lost or Restricted Workday Case Incidence Rate</b>
1998	775,436	14	3.61	4	1.03
1999	787,124	18	4.57	14	3.56
2000	1,219,505	5	0.82	1	0.16
2001	1,186,781	16	2.70	7	1.18
Most Recent 3-year Average	1,064,470	13	2.70	7.33	1.63
Sic 495			10.59		6.3

PFP injury and illness data is not reported directly to the DOE Computerized Accident/Incident Reporting System. The data are reported and captured as part of Fluor Hanford's site-wide program. Injuries and illnesses at PFP are reported to Fluor Hanford's corporate manager by a case manager and evaluated by the Hanford Environmental Health Foundation (HEHF), the site-wide health provider. Employees incurring a work-related injury or illness are required by procedure to report their injury or illness to line management as well as HEHF. This assures prompt medical and operational review of the employee's condition. Appropriate and timely treatment expedites employee recovery. PFP employees may self-treat minor injuries with the approval of their manager.

Case managers are responsible for activities related to each occupational injury and illness. They ensure prompt and appropriate medical attention for injured or ill employees. In working with affected employees, the teaming of managers and employees helps to broaden the perspective of incident investigations and resultant corrective actions. This clearly demonstrates that management is committed to the minimization and/or elimination of identified hazards. Routine assessments of safety performance is supported by a state-of-the-art web-based computer program that automates multiple activities, and facilitates continuous improvement through the sharing of lessons learned at Employee and President Accident Council meetings.

Investigations of injuries and illnesses involve at least the employee, their manager, and a safety professional. Frequently, additional personnel with specific expertise in factors related to the incident supplement this teaming effort, assuring a thorough investigation and a broad perspective in the identification of corrective actions. Management readily accepts responsibility for implementing measures that either control or eliminate the hazards involved with the related incident.

Safety performance is tracked and trended on at least a monthly basis, and adjustments are made where negative trends are identified. These adjustments include such items as

additional training, and task redesign and/or physical changes to the work environment. Tracking of these trends is accomplished utilizing a web-based computer program specifically designed to perform multiple recordkeeping, management, and statistical functions. The program generates the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) 200 Log from data entered by the Project Case managers. It also generates the Computerized Accident Investigation Report (the OSHA 101 equivalent) required by DOE O 231.1, and a variety of statistical and narrative management reports. The Injury/Illness Recordkeeping and Reporting Coordinator was recently trained on the new OSHA 300 Log and reviewed proposed changes to DOE O 231.1.

Lessons learned identified during the investigation process are discussed with those involved and with those who could potentially benefit from lessons learned. Significant incidents are elevated to both the Employee and President Accident Councils to promote proactive implementation of corrective actions at other locations with similar conditions.



Employees verify installation/ operation of magnesium hydroxide precipitation process glovebox.



### **III. Management Commitment**

#### **A. MANAGEMENT COMMITMENT**

The level of management commitment found at this site meets DOE-VPP criteria. The sub-elements of this tenet and an evaluation of the applicant's performance in these areas are addressed and described below.

#### **B. VPP COMMITMENT**

Management support and commitment are critical to the successful implementation of the DOE-VPP. In addition to the Integrated Safety Management Systems (ISMS), mandated as a requirement by DOE, NMSP management has implemented a number of well-integrated safety management systems drawing on the guidance and support of its parent, Fluor Hanford. These include implementation of an annual Safety Improvement Plan (SIP), conduct of Quarterly Management Assessments, strengthened Conduct of Operations, and implementation of the PFP Zero Accident Council (ZAC). These mechanisms work together to ensure that work is managed, and all recognized potentially hazardous situations are identified and mitigated.

NMSP and Fluor policy state that "they are committed to providing a safe and health working environment for all staff; protecting the general public, and environment from unacceptable environmental, safety and health risks; and operating in a manner that protects and restores the environment." Anything that poses a safety and health risk is unacceptable. During the review, employees indicated they were aware of this position. The objective at PFP is to "do work safely."

NMSP/PFP managers at every level are involved and show their commitment to worker safety by helping to identify the worksite hazards and reduce the danger of injury and illness to employees; and by encouraging employee involvement in the identification of the workplace hazards through the AJHA program. The Departmental requirement for ISMS has been verified and it is in place and functioning.

Management's involvement, participation, and visibility in safety are evidenced by their endorsement of manager's and worker's participation in workplace safety activities. Activities include participation in safety councils, critiques of events, work planning, participation in EZACs, development and implementation of annual SIPs, development and implementation of Facility Safety Logbooks, and effective implementation of the HAMTC Safety Representative Program.

All managers have performance criteria that include safety performance as a key element of their yearly performance appraisal. Any employee at PFP may report a safety-related concern or issue without fear of reprisal or harassment for reporting the issue.

## **C. LEADERSHIP**

NMSP has a well-thought-out comprehensive program to support all the sub-elements of this VPP tenet. Management leadership for safety is implicit in the design of the program and systems that support safety at the site.

The Vice President and managers solidly demonstrate management commitment. NMSP/PFP's and Fluor's commitment is demonstrated in strong safety and health policy statements, the providing of resources necessary to support all safety and health program activities, attention to employee-identified safety and health concerns, active participation in safety promotional activities, and leadership/mentoring for employee safety team activities.

NMSP has established a hierarchy of committees and teams that appear to effectively provide the opportunity for everyone to be involved in the safety program. Starting with the VPP coordinating committee, and working down through several process and discipline specific committees, managers cooperate to plan and administer the safety process.

## **D. ORGANIZATION**

NMSP is organized to support its roles and responsibilities policies. Through review and observation of the processes in action, the review Team believes that safety is thoroughly integrated into NMSP's organizational design. The ES&H staff reports to the Director and provides expert ES&H services. Most of the personnel at the Hanford Site (including the Safety and Health Department and the Radiological Control Group) are assigned as needed to support specific line requirements.

## **E. RESPONSIBILITY**

Top management both at Fluor Hanford and at NMSP/PFP is prominently involved in all elements of the S&H program, and is committed to the implementation of a well-coordinated S&H program, including establishing a clear line of communication with employees. PFP subscribes to the philosophy that line management is responsible for safety. However, it is clear that management needs help with implementing the ES&H Program, that each employee is personally responsible for safety and has a significant role to play in implementing this program. A Quarterly Management Assessment Program (MAP) ensures that managers conduct periodic formal inspections, with managers assisting one another to ensure objective feedback.

NMSP has clearly defined the roles, responsibilities, accountabilities, and authorities for performing the mission safely. Managers and employees have been clearly made responsible for safety at PFP. Policy acknowledges that a team of ES&H specialists with technical expertise, including a variety of disciplines such as industrial hygiene, fire protection, and radiation protections are available to achieve excellent performance. For

that reason, highly qualified ES&H professionals are part of the operating teams that ensure that work is performed safely, and other ES&H professionals provide independent overview of PFP operations.

NMSP uses position descriptions to ensure that all positions in their organization have a current and accurate description of the duties of the job to be performed and the reporting relationship. Employee performance reviews are used to monitor and reinforce implementation and performance goals for safety.

NMSP has established a strong safety culture that both management and employees share a belief that all employees of PFP are both responsible and accountable for safety and health in the workplace.

## **F. ACCOUNTABILITY**

Management, through the Departmentally mandated ISMS requirement, is committed to, providing the leadership, direction, goals, training, resources, and standards to assist employees in the performance of their duties in a safe and healthful manner. Management and employees share in the responsibility to carry out individual duties in a safe manner. Managers are held accountable for safety by specific standards within their individual performance standards and they are accountable for the consistent enforcement of company safety policy. The company has a formal written performance appraisal system with S&H responsibilities as a critical element for all management personnel.

The annual performance appraisals are a key method used by the site to hold managers and supervisors accountable for their performance. The annual performance reviews, which are conducted for all employees except for bargaining unit employees, consider S&H performance as a major element of the review. Employees have input to what their specific S&H expectations are for the rating period. Additionally, the results of these reviews directly affect annual merit pay considerations. Management has an established policy allowing disciplinary action(s) for violations of rules, policy, and requirements, thereby ensuring accountability on the job. Accountability is regularly communicated to everyone through staff meetings, safety meetings, training, site publications, and annual performance reviews. All subcontractors are expected to follow FH/NMSP S&H requirements and they are held accountable for meeting these requirements, both through formal contractual agreements and through the implementation of formal policies, procedures, and directions. Failure to comply with these requirements and/or continued non-compliance can result in dismissal from the work site.

## **G. AUTHORITY AND RESOURCES**

All NMSP employees are responsible for safety. Employees are empowered by management with the authority to “stop work” and to immediately address safety concerns. This review indicated that the system utilized is effectively working. The Vice President

has the ultimate responsibility, but is assisted by full-time professional, technical, and administrative employees, and the various safety teams. Adequate resources, including staff, equipment, materials, training, and professional expertise have been committed to workplace safety and health.

NMSP changed their management system to an S&H related Integrated Safety Management System (ISMS) in conformance with the Departmental requirement. This, in turn, changed many aspects of S&H projects, investments, training, and funding processes. This standards-based management system (SBMS) places emphasis on S&H, work site analysis, hazard identification, and prevention/control, management and staff related assessments.

The ability to invoke the use of “stop work authority” has been clearly communicated to the entire staff, along with the understanding that any perceived repercussions would not be tolerated. Corrective actions on findings, issues and other items are tracked until completion. PFP runs an active training program for its own employees along with others sent there for that purpose. The previous budgets for S&H appear to have been adequate.

## **H. PLANNING**

The need to build S&H into projects is well ingrained into PFP culture and policy. The annual planning process requires managers to analyze and predict ES&H training and operational costs for doing business. An institutional plan helps capture long-term goals and capital expenditures. An integrated planning framework has been established to provide a comprehensive template to ensure the planning process is comprehensive. The Integrated ES&H management system and Integrated ES&H program description within the SBMS outline how work is proposed, planned, and executed at PFP. The work process at PFP integrates S&H into the project life cycle.

The inclusion of S&H planning by management begins at the company or site level. The first guiding principle in the site’s long-range Plan, the SIP, which governs the site’s mission and vision, is “environment, safety and health excellence.” At lower levels, managers of programs and projects are required to plan and outline safety and health support as part of their program or project scope of work. Overall, the safety and health program is goal driven with annual review and modification of goals and objectives based on actual performance findings. Safety and health planning is thorough and it is designed to ensure continuous improvement.

NMSP develops annual ES&H management plans as part of the annual, site-wide budget process. These ES&H documents and plans support the overall budget process, identifying issues and needs, and document projected activities for ES&H.

## **I. SUBCONTRACTOR PROGRAM**

Contract workers are expected to meet the same standards for safety as PFP staff. Contractors or their workers who do not meet those standards may be barred from performing work at PFP. No recent examples could be found, however. PFP oversees its contractors at every stage. Failure to comply with S&H rules, regulations, and policy can result in dismissal from the site. Subcontractors who repeatedly violate the same rules, policies, or standards may be dismissed from the site and prohibited from future work at the site.

All subcontracted work employees must receive the primary site orientation through HGET; activity and workplace specific orientation and training is received through a mix of both site-sponsored courses and contractor-sponsored courses. Contract provisions require program and site audits by PFP. This system has been effective for several years.

The management personnel interviewed during the course of this onsite evaluation who had a responsibility either for planning, supervising, or working along with subcontractors indicated that subcontractors were expected to follow PFP S&H requirements, and that subcontractors were held accountable for meeting these requirements. In addition, a few random interviews with subcontractors confirmed that they were held accountable for S&H performance on the job. Subcontractor employees all appeared to be knowledgeable in the site's safety requirements and actively participated in the site's VPP activities.

## **J. PROGRAM EVALUATION**

Annual program evaluations have been conducted using VPP criteria since 2001. Evaluations of the S&H program are conducted with participation by both management and employees. Self-assessments and annual reviews are used as a means for continuous improvements in the S&H program.

The results of annual program evaluations and other S&H trending data are used by PFP to develop goals and objectives for the coming year. Employees conduct the annual evaluations, and the results are formally documented. Every corrective action is then tracked to completion. Yearly goals and objectives for the overall site S&H program and the individual units are developed and partially based on the results/findings of the annual program evaluations and are a part of the SIP process.

The last annual VPP program review was completed in May of 2002. The report was well documented, identified areas needing improvement, and included detailed corrective actions and goals to ensure the VPP effort and overall program is continuously improved.

## **K. SITE ORIENTATION**

A comprehensive, formal site orientation program, including training and documentation, applies to all persons entering this site. The PFP training programs are available on entry to the site. Each individual is responsible for completing his training matrix before being granted access to PFP. For each visitor, a staff member serving as host assumes responsibility to ensure that all appropriate orientation and training are completed.

## **L. EMPLOYEE NOTIFICATION**

The employee notification program surpasses the requirements for employee notifications contained in DOE Orders and guidance documents, and these requirements exceed the OSHA (Federal and State) requirements for employee notification. PFP employs a number of communication mechanisms designed to appeal to the diverse population. In addition, VPP information brochures and postings have been developed and a survey with a significant incentive award was implemented.

The Vice President and other managers have clearly accepted responsibility for the safety of their employees and the operations under their control by establishing ES&H policies. The management of the facility is fully committed to achieving an accident-free work environment.

## **M. MANAGEMENT VISIBILITY**

Top-level management is clearly visible and actively participates in the S&H program. PFP management regularly participates in various S&H activities. Managers are held accountable for their S&H responsibilities and maintain a policy of accessibility with regard to S&H issues that arise in the workplace. An “open door” policy ensures that any employee, at any time, can express an S&H concern to any level of management. The team confirmed this policy through formal and informal interviews, and noted that most employees did not feel the need to raise concerns above their first-tier or immediate supervisor because any concerns raised were usually resolved almost immediately.

## **N. CONCLUSION**

Management leadership is clearly demonstrated by the S&H infrastructure in place and functioning at this site. Skillful attention to the encouragement and growth of employee ownership has enhanced not only the S&H program, but has measurably improved all operational areas. NMSP/PFP meets the requirements for the management commitment tenet of DOE-VPP.

## **IV. EMPLOYEE INVOLVEMENT**

The onsite review showed that overall employees are effectively involved in S&H programs by participating in various safety committees as described below. In addition, a review of program documents including company policies and procedures indicated the intention of the company is to fully empower employees to implement the S&H programs at this site. However, the team did identify a few apparent weaknesses relative to operational and craft employee training in hazard recognition, participation in committees and assessments, and in providing input to the AJHA's that warrant further enhancement. The findings of the Team are presented below.

### **A. DEGREE AND MANNER OF INVOLVEMENT**

The total number of employees at PFP is approximately 510 including 248 bargaining unit employees, 194 exempt employees, and the remaining managers and executives. The Team conducted formal and informal interviews with approximately 20% of the workforce. Formal employee interviews were conducted with individuals who were randomly selected from a list that was provided by PFP. Informal interviews were conducted with employees during the walk-through of work areas at various site locations. Most of the interviewed employees have worked at PFP or with associated work on the Hanford site for more than ten (10) years. The institutional knowledge inherent in such a well-developed organization was apparent. These factors contributed to what the team viewed as a very a mature safety attitude among this workforce.

Generally, workers were candid and indicated their safety concerns are heard and acted upon. Employees indicated that they understood their rights and responsibilities, and are very knowledgeable about their rights and responsibilities regarding S&H, particularly their Stop Work authority. Workers and supervisors described instances where work was stopped or curtailed until a safety issue was resolved. Interviews confirmed that a strong safety culture exists at all levels, and employees feel empowered to voice safety concerns. The Facility Safety Logbooks provide an opportunity for employees to express concerns, review status of corrective actions and review inputs from colleagues. These logbooks are maintained in an easily accessible location in the workplace. Also, management briefs employees during monthly All Hands meetings regarding the status of identified safety concerns.

Most employees were familiar with NMSP/PFP's efforts to continually improve safety programs. They understood that the pursuit of VPP recognition was part of the PFP's ongoing efforts to keep the program moving forward. Most employees interviewed were highly knowledgeable regarding their rights to request reports of inspections; accident investigation; and injury and illness records. Employees stated that they were given timely and complete written and/or oral feedback to S&H questions and issues.

The information gathered by the VPP onsite review Team, from field observations and from formal and informal employee interviews indicates that NMSP has made significant progress over the last two years in improving the overall safety culture at PFP. However, during interviews of operational and craft employees, they observed that even in the face of obvious and significant safety improvements they felt a tendency to place production over safety still lingers. Clearly, the Job Hazard Analysis process provides a unique opportunity for employees to participate in work planning. Employees from all interested disciplines meet to discuss the work; identify work requirements or potential problems; and finalize the AJHA. Several AJHA meetings may be held, depending on the complexity of the tasks. However, a weakness noted by the Team was that in some instances broad worker participation in the AJHA process was limited by what was described as “production urgency.” Many workers suggested the need for adequate time during the AJHA process to fully understand and adjust work plans before beginning the work. Also, many interviewees indicated that they would benefit from more hazard recognition training, exclusive of their work scope, in order to be more effective during participation in worksite inspections. A pre-job briefing is held on the day of the work execution to ensure employees understand the work, the hazards and the expectations. Every employee has an Employee Job Task Analysis (EJTA) that covers potential hazards and exposures from an employee’s routine scope of work. The EJTA’s are reviewed and updated according to the changes of scope of work performed by the employee.

Overall, it was clear that the work force has enthusiastically welcomed the opportunity for increased participation in assuring their abilities to perform work safely. When asked how the VPP process has impacted their work, most employees interviewed responded that their awareness level has increased, and their recognition of how their work may impact the safety of others has also been heightened. Notably, PFP employees indicated that the Company’s VPP efforts have kept safety in the forefront. Many workers indicated that the VPP effort has moved the PFP’s programs to a higher level. However, a few weaknesses as noted above by the Team from the interviews suggests numerous approaches to further strengthen and enhance employee involvement is possible.

## **B. SAFETY AND HEALTH COMMITTEES**

All meetings are opened with a safety message. Employees feel they own the committees and that management participates in the committees, but that the employees have the ownership. At PFP they also communicate safety and health information through posters; emails; use of bulletin boards; safety meetings; “all-hands” meetings; and other oral communications.

During interviews and in meetings, the team noted that workers generally indicated that they have input into the procedures for the work being performed. Many of them are involved in the development process, and others have input after the development, but always prior to implementation and use. The team observed that employees were confident, enthusiastic, and felt that they are part of the work development process at this site.

Programs that are employee-oriented and support the VPP Employee Involvement tenet include:

- PFP-Hanford Atomic Metals Trade Council (HAMTC) PFP Safety Committee
- VPP Steering Committee
- President's Zero Accident Council & Employee Zero Accident Council
- As Low As Reasonably Achievable (ALARA) Committee
- Electrical Safety Committee
- PFP Monthly Safety Meetings

## **C. CONCLUSION**

Employee ownership has taken root in many forms throughout this worksite, and it appears that it can be sustained by the infrastructure put in place by management and through diligence by all to nurturing the culture that has been built. NMSP/ PFP generally meets overall expectations for employee involvement, but the degree of employee involvement had observed weaknesses in hazard recognition training, participation in assessments, and a role in AJHA meetings and critiques for a limited class of employees.

## V. Worksite Analysis

The onsite review showed that PFP meets the requirements for worksite analysis found in the DOE-VPP criteria. The sub-elements of Worksite Analysis program at this site are described below.

The worksite analysis processes at PFP are structured and implemented to adequately control hazards to the workers, the environment, and the public. Formal worksite analysis processes for control of operations and maintenance, and the mitigation of hazards or potential hazards are in place. Personnel interviewed during this review and observations made by the Team confirmed that these processes are used and understood by the workers. Hazard analysis processes incorporate such tools as the AJHA system, JHAs, and the required walkthroughs by all crafts, engineers, maintenance personnel, and subject matter experts deemed necessary to ensure a safe and functional work evolution.

### A. PRE-USE/PRE-STARTUP ANALYSIS

The PFP assigned nuclear facilities have an approved SAR. Prior to any new design or modification of systems or processes, a hazard and accident analysis is completed which documents the defined processes, specifies requirements, lists specific types of hazards and mitigation during design, and ranks categories of hazards. Safety and engineering professionals review the design criteria and provide comments and resolutions. These are tracked to completion on any new design or modification to systems and processes. Based on the risk and complexity of a task, every work group involved in an activity may participate in the AJHA. Employees are involved in pre-start-up analyses using the AJHA, and in developing operating procedures for new equipment. In addition, the Work Management Process provides a mechanism to review and change facilities and work. Applicable Facility Safety Analysis Reports are updated annually and for major modifications. The PFP Safety Basis Documents are in the process of being revised to satisfy the planned D&D activities during the next few years.

Each facility also uses administrative procedures to provide facility specific implementation information and requirements. PFP assigned nuclear facilities (all of the major facilities on-site) have an approved SAR, authorization envelope, and Authorization Agreement. Requirements for industrial and/or radiological facilities are also provided in accordance with standard practices and procedures. A graded approach employed for the required level of analysis and documentation for a given facility is consistent with:

- the complexity of the facility and/or systems,
- the hazard classification of the facility,

- the magnitude of the hazards, and
- the stage of the facility life cycle.

The Team observed a Plan of the Day Meeting and other Planning and AJHA development evolutions. Effective interaction between engineers, PICs, crafts, and supervisors were witnessed during these meetings. Employees confirmed that they are involved in pre-work/startup analyses, and believe that their involvement is appreciated and contributes significantly to the development of safe work practices. As a result, employees have a greater sense of ownership, thus their level of participation has increased.

## **B. COMPREHENSIVE SURVEYS**

PFP has completed a Baseline Hazard Assessment. EJTAs are conducted to match employees with work and is reviewed by industrial hygienists. The EJTA is renewed and updated periodically or whenever the individual has a change in his/her potential exposures or routine scope of work. Each employee is afforded the opportunity to review and discuss the content of the EJTA with the appropriate manager.

Risk-Based Monitoring and personal exposure monitoring also complement the survey program. Shift, daily, monthly, quarterly, and annual radiological surveys/monitoring are also conducted. PF adopts the “Radiological Control Manual,” HNF-5173 for radiological monitoring.

Some of the equipment, for example, “Snoopy,” the neutron radiation detector may be old and heavy, but the Radiological program is in good shape.

## **C. SELF-INSPECTIONS**

S&H professionals, line managers, and employees are involved in self-inspections, which include S&H, fire, and respiratory protection program procedures. In addition, they conduct facility surveillances, operations inspections, shift surveillance inspections and employee-based inspections. Depending on the type of deficiency discovered and the type of self-inspection, deficiencies are tracked using either surveillance data sheets; log books, maintenance work packages, and the facility tracking database or the Project Hanford Management Contract (PHMC) Deficiency Tracking System.

In addition, the high level Fluor-sponsored FEB schedules a comprehensive review of PFP every other year. The scope of the first FEB review, conducted during 2001, fulfilled the independent assessment requirements of the ISMS implementation and confirmed elements of PFP’s Voluntary Protection Program. There are formal schedules for assessments, at least annually, that meets or exceeds requirements. There is also an established surveillance schedule for safety systems that is established and prioritized by engineering.

**Noteworthy practice:** Two documents, “PFP Safety Culture Assessment – A Follow-up Review,” May 21, 2001, and “2002 Self Assessment – VPP PFP” are excellent reviews offering very useful suggestions for improvement.

## **D. ROUTINE HAZARD ANALYSIS**

All work is planned and analyzed before activities begin. Some team members attended the Shift Change/Turnover Meeting and the Prejob/Thermal Stabilization Meeting to observe the proceedings and verified that work tasks are routinely reviewed to identify hazards and determine safe work practices. Employees are involved in the pre-job planning, which includes the assessment of hazards. Safety professionals are included in the process when needed.

A JHA following the requirements in HNF-PRO-079, *Job Hazard Analysis* is completed for all jobs using a graded approach. The JHA is used during the work planning process for identifying, evaluating, controlling, and communicating potential hazards and environmental impacts associated with routine, non-routine, and skill-of-the-craft work. One strength of the program lies in the fact that anyone may Stop Work if something is not right.

During a JHA review, the work team discusses options to improve the work site, place shielding for dose reduction, or work more efficiently to minimize worker exposure. The PFP uses the AJHA to identify potential hazards before work begins. A goal of the process is to ensure that those involved with the planning also do the actual work.

## **E. EMPLOYEE REPORTING OF HAZARDS**

PFP promotes open, two-way communication to facilitate resolution of employee S&H issues and concerns. Employees are free to use verbal or written means to report S&H issues. Issues that are brought up in safety meetings and cannot be resolved immediately are tracked to resolution in safety meeting minutes.

The “Stop Work Responsibility” policy establishes employee responsibility and authority to stop work immediately, without fear of reprisal, when a situation exists that places themselves, their coworkers, or the environment in danger. This has been communicated to employees verbally, in letters from the PFP Project managers, and in the HGET. It is also posted in facilities to remind employees of their rights and responsibility to stop work when they deem it necessary.

Operators and craft personnel routinely report hazards to supervisors, write them up in a “Safety Log Book” or bring them to the attention of stewards or Accident Council representatives for corrective actions. Regardless of the vehicle used for notification, PFP management prides itself on rapid response (often in writing) and follow-up of actions to resolve each report. Corrective actions are normally tracked to completion in a Non-

Deficiency Tracking System (NDTS) and/or appear in the minutes of safety or EZAC meeting minutes.

Employee interviews confirmed that they are fully aware of how to report hazards. While there are formal mechanisms for reporting hazards, most employees feel comfortable reporting hazards to their supervisors, expecting that hazards will be corrected almost immediately. Employees feel they can report hazards to any level of PFP management without fear of reprisal.

## **F. ACCIDENT INVESTIGATIONS**

PFP personnel are required and encouraged to promptly report and investigate work-related events, including incidents involving property/vehicle damage, accidents involving injuries/illness, and near misses. Line managers determine the extent and type of accident investigation required. PFP offers accident investigation training to employees and managers and has staff members who are certified DOE Accident Investigators. Bargaining unit employees assist in training development and conducting training sessions. Employees are encouraged to participate as part of the team during investigations.

Lessons learned are sent to the Hanford Site Lessons Learned Coordinator for distribution. Informal lessons learned are shared within the PFP Project safety contacts. Any actions are entered into the tracking system and tracked to completion.

Injuries reported to date this calendar year were properly investigated. First aid cases as well as recordable cases are investigated and recorded on Event Report (Project Hanford Form A-6001-714) forms. The form provides a mechanism for the injured employee, immediate supervisor, and an Industrial Safety and Health professional to investigate and record how the incident occurred, and what can be done to prevent recurrence.

## **G. TREND ANALYSIS**

Safety and Health performance and trending data are available to both management and employees and are used as the basis to modify, change, or establish safety processes. PFP ES&H staff perform a broad-based, comprehensive trend analysis on a routine basis. Monthly collections of fifteen indicators of PFP performance are used to monitor processes related to hazard reduction. Indicators include project safety rates, safety improvement plan performance, and personnel radiation exposure by job task, preventive maintenance backlog, and corrective action risk ranking. A monthly trend analysis report captures injury and illness to date and is issued to management and members of the Safety councils. Annually, Environment, Safety, Health & Quality (ESH&Q) staff analyzes trend event reports, motor vehicle accident causes, and violation data to communicate to employee's weaknesses and desired improvements. Radiological trend analyses are used to develop improvement strategies and annual ALARA goals.

PFP formally trends injuries, illnesses, fire damage, vehicle damage, preventive maintenance backlog, and corrective action risk rankings. There is also some informal trending of Occurrence Reporting and Processing System reports and other information gathered by safety professionals. Trending charts are made available to employees. Charts are posted, for example, in facility lobby and ‘break’ areas. Such reports are disseminated to provide employee feedback and communicate areas earmarked for improvement. Some team members attended the monthly meeting of “Plant Objectives and Performance Indicators,” where root causes of occurrence reports and other statistical information was discussed. The Director of PFP attended this meeting.

## **H. CONCLUSION**

Worksite analysis is an important element of everyday work at PFP. It is so ingrained into the culture that safety analyses are the first considerations for any planned work or operations tasks. NMSP/PFP meets the requirements for the worksite analysis tenet of DOE-VPP.

## VI. Hazard Prevention and Control

The level and complexity of the hazard prevention and control program found at this site meet DOE-VPP criteria. Sub-elements of this tenet are addressed and described below.

### A. ACCESS TO CERTIFIED PROFESSIONALS

PFP has chosen to maintain a highly qualified S&H staff to meet the needs of their projects and assigned facilities. Personnel in the Industrial Hygiene, Occupational Safety, Fire Protection, and Radiological Control organizations have the education, training, experience, and professional certifications to provide excellent support to facility personnel. The staff includes a Certified Industrial Hygienist, Certified Safety Professionals, radiation protection technologists, and qualified fire protection engineers. Communication from this extensive staff of technical experts to the employees is encouraged and supported through various mechanisms, to include:

- Meetings to discuss new regulations, technology, concerns, and other site issues,
- Examination of site electrical issues by the Hanford Workplace Electrical Safety Board,
- Establishing Center's of Expertise, to include, OS&H, Radiological Control, and Nuclear Safety, and
- Locating technical experts near the work.

PFP depends on services available at the Hanford site to complement their expertise. The Hanford Site maintains trained and qualified medical, fire department, and emergency response personnel and services. The Hanford Occupational Medical contractor, the HEHF, provides occupational medical personnel. HEHF has assigned a physician to work with PFP employees. The physician and physician assistants regularly tour PFP facilities, are familiar with the day-to-day scope of work, and understand the different needs of employees. The medical staff works very closely with PFP safety specialists to ensure that workers are receiving appropriate care. Periodic meetings are held to discuss new regulations, technologies, concerns, or other site-wide issues. A local HEHF medical facility is located a short distance from the front gate of the PFP facility.

Under the direction of HEHF's three board-certified occupational health physicians, five physician's assistants, numerous nurses, and other skilled medical related specialists provide a wide range of services to PFP employees. Services include case management, ergonomics assessments, exercise physiology, fitness for duty evaluations, health education, immediate health care, infection control, medical surveillance, occupational medicine and nursing,

psychology and counseling, and work suitability evaluations. They are encouraged to perform at least 12 site visits a year and to become more knowledgeable about field operations and potential medical risk factors. Their hazards-based program focuses on key elements such as risk factors related to workplace exposures and target organs.

Communication from this extensive staff of technical experts to the employees is encouraged and supported by a number of processes and policies.

## **B. METHODS OF PREVENTION AND CONTROL**

Hazards at this site are controlled using engineering controls, PPE, and work practice guidelines. These controls are reviewed and only need updating on an infrequent basis, as they are well characterized. Site safety rules, safe work practices, and PPE usage was found to meet requirements. The site currently maintains Material Safety Data Sheets (MSDS) in a central location. PFP has strengthened their process for ensuring that MSDS files are protected, complete, current and readily available at the workplace. The PFP employees have ready access to MSDS and understand the MSDS program.

During the onsite review it was determined that the 29 CFR 1910.147 Lockout/Tagout standard was not violated. Similarly, the team found that the Confined Space Program and hazard communication to be adequate.

After interviewing members and observing the team, it is evident that the System Operating Engineer (SOE) is an integral part of team success. Project Engineers and Operations use the Lead SOE, and craft people daily for troubleshooting, AJHA, ISMS walk downs, and consulting. This readily available resource has relieved a large emergent workload from the rest of the Maintenance teams. The Project Team has matured and adapted to the needs of the facility.

PFP has the mission to stabilize nuclear materials and be turned over for Decontamination/Decommissioning. PFP's work is considered some of the most hazardous at Hanford. As part of the pre-job program they frequently do mock-ups to ensure workers are familiar with the job and aware of the hazards associated with the job.

Employees who have safety issues or concerns can report them to their manager for swift resolution or they may enter them in the Facility Safety Logbook. When they are entered in the safety logbook the Facility Manager reads and takes prompt corrective action. At monthly All Hands meetings, employees are briefed on safety issues that were identified during the preceding month, as well as corrective actions taken to address these concerns.

## **C. SAFETY AND HEALTH RULES**

Rules and expectations have been clearly laid out for workers and managers and are reinforced in various ways, such as HGET and PFP ZAC meetings. PFP employees receive positive reinforcement, as well as discipline when necessary. For example, employees who are observed acting safely are eligible for an award. Some facilities within PFP give an award to everyone “caught” working safely, while other facilities hold a drawing periodically to select an employee to reward. Management, in some fashion, recognizes all employees who are observed working safely.

Senior managers have the responsibility for establishing and enforcing the disciplinary policy. Violations of S&H procedures, activities or standards can result in disciplinary action, up to and including dismissal. There were recent examples of both days off work without pay for violating S&H rules, as well as termination of employment for a major violation of S&H rules. Interviewed employees stated that they were well aware of what happened and the disciplinary actions taken; they stated that the terminations were justified and that the days away from work without pay were fair when invoked.

PFP has two internal safety councils: they are the “PFP ZAC and the facility EZAC”. Each council consists of equal voting membership from management and the bargaining unit. They provide recognition processes for rewarding outstanding safety support. Employees nominate their peers. All-Hands meetings, All-Employee meetings and Facility Safety Days are events where employees receive certificates, pins, hats, and other items for safety achievements. In addition, the Accident Council also works several other S&H issues.

Overall, the Team found that site S&H rules are well documented, and are applied to subcontractor employees as well as PFP employees. Interviews with employees indicated that they knew and understood the disciplinary process should these rules not be adhered to. Those interviewed felt this process was both fair and consistent, and gave examples of positive reinforcement received from supervisors and management for good work practices.

Fluor Hanford/PFP has one open quality assurance related issue in the area of Price-Anderson Amendment Act, but has no direct impact on the safety programs. Once employee interviewed by the team said, “this is a site-wide problem, one year ago we didn’t have procedures, now it is pretty good.”

## **D. PERSONAL PROTECTIVE EQUIPMENT**

The site policy is to provide the necessary PPE required, thus protecting workers from hazards that cannot be otherwise eliminated or avoided by engineering or administrative controls. Many types of equipment are made available, including gloves, boots, safety glasses, hearing protection, and respirators. Employees must receive training and appropriate medical evaluation before being permitted to use PPE. Training includes information about the maintenance, care, inspection, storage, disposal, and use of PPE. Where PPE is utilized, instruction for its use is integrated into task-specific procedures. Areas throughout the PFP

(such as the maintenance shop) were properly posted to inform employees of required PPE based on potential hazards. Appropriate PPE was made available for visitors.

## **E. PREVENTIVE/PREDICTIVE MAINTENANCE**

PFP has implemented a comprehensive PM program. Preventive and predictive maintenance is used to mitigate the chances and effects of unplanned equipment failure, thereby enhancing safe and effective operations. The PM program uses a computer database that has been designed to ensure scheduled maintenance is completed prior to equipment failure. The computerized PM system facilitates scheduling, tracking, and trending. Maintenance work instructions are included in the database and are rigorously reviewed and approved by engineering personnel depending on the relative risk involved in performing the work. Tracking of the corrective and PM program occurs monthly. PFP conducts weekly, daily, quarterly, and yearly-planning meetings that include affected managers, supervisors, team leads, and workers.

## **F. EMERGENCY PREPAREDNESS AND RESPONSE**

PFP has a mature emergency preparedness program. They practice scenarios (drills and exercises) and maintain a comprehensive set of response plans specific to a variety of potential scenarios. The PFP has adopted the Incident Command System as the model for managing emergency response on the site. PFP also participates in two Hanford site-wide emergency drills each year; one is typically a fire scenario and the other is a “take cover” scenario. There are approximately 13 drills per year, which cover potential hazards, such as a chemical spills, leak, fire, radiation and security.

Employees interviewed were aware of emergency procedures, and effectively explained evacuation processes. PFP has several means to communicate emergency conditions including alert phones, sirens, computers, intercoms, and offsite radios. Weather emergencies are also communicated to employees. Additionally, VPP Team members were briefed on site emergency procedures, and, although escorted during the VPP review, received and read orientation booklets explaining site alarms, postings, and various PFP hazards.

PFP conducts their own monthly drills and is involved in a joint drill with DOE and other onsite contractors. These drills are to ensure the effectiveness of developed/deployed emergency and evacuation plans and contingency plans.

## **G. RADIATION PROTECTION PROGRAM**

The site has implemented the ALARA program to maintain the highest standards of ES&H protection possible. The program includes appropriate levels of self-assessment and oversight to ensure compliance with departmental requirements and ensure that established radiological work practices are being implemented. PFP ensures that personnel responsible for performing radiological work activities are appropriately trained and have the technical competence needed to implement and oversee the Radiological Control Program.

Radiological Work Permits are used to ensure that radiological operations are planned and performed properly. The following are examples of good ALARA practices: extensive use of mock-ups to plan work activities; the use of AJHA processes to identify dose savings work-steps; requiring current dose field maps for the work areas; PD4 continuous dose/dose rate monitoring during work execution; use of a 300 mrem/7 day dose limit; and active involvement of first line supervisors in the dose monitoring. Data and trends are monitored to ensure adequate performance and are provided to top management on a monthly basis.

Employee interviews indicated that management places great emphasis on the protection of employees from exposure to radiological hazards. Employee awareness of PFP's ALARA program is increasing.

## **H. MEDICAL PROGRAMS**

The site has integrated medical services with ES&H. The PFP project safety organization provides direct support and planning to the facilities on occupational health related processes. They also interface with HEHF physicians and staff. HEHF has a cadre of physicians, physicians' assistants, nurses, and other medical specialists. To supplement this coverage, the PFP has many trained medical responders, whose duties include providing first aid before arrival of professional medical support. Each active shift has an appropriate number.

PFP utilizes the EJTA system to match work-related hazards that require medical evaluation and essential job functions. Medical exams are then scheduled with notification to the employee and their supervisor. The Team found these combined systems to be unique, and extremely efficient. Based on a review of the EJTA records it was found that PFP was 100% up-to date in the bi-annual review of the employee's records. Physical examinations are risked based using the EJTA as a guide. This has resulted in the examination schedule being revised from previous years as in DOE Order 5480.8A.

## **I. CONCLUSION**

NMSP/PFP meets or exceeds the requirements for the hazard prevention and control tenet of DOE-VPP.



## **VII. SAFETY AND HEALTH TRAINING**

The S&H training program, procedures and overall implementation meets the DOE-VPP criteria.

### **A. SAFETY AND HEALTH TRAINING**

Overall, the site provides effective and documented S&H training for employees, supervisors and managers. PFP-specific training is provided based on the location and nature of an employee's job assignment. Line managers are responsible for identifying required S&H training for employees. The training records of the employees are kept on a system called Integrated Training Electronic Matrix (ITEM).

Employees are taught to recognize hazards associated with their jobs through several means. Special technical groups receive discipline-specific professional skills training. Operating staff personnel receive special qualifications training. Employees must go through months of classroom training on procedures and process, and successfully complete a written examination before beginning on the job training. Programs covering fire and emergency systems, hazard communications, hazardous waste operations, radiation worker training, confined space entry, industrial truck operations, electrical safety, fall protection, hoisting and rigging, crane operations and operational safety are also included in the training program, among others.

On-the-job (OJT) training is used extensively across the site to ensure that each worker obtains the required skills to perform a specific job function safely and effectively. This is achieved by following the requirements of a qualification guide or OJT checklist that documents "hands-on" training and "mock-up" training used to prepare for conducting potentially high-hazard activities. This training documents the worker's understanding and proficiency.

Daily pre-job briefings are performed, and all meetings include a safety message regarding either on- or off-the-job safety designed to enhance the overall attitude about safety. PFP recently developed and implemented effective training for personnel performing employee-based safety inspections.

Informal training in the form of safety meetings and group discussions also takes place. Programs of continuing education and/or re-certification are also provided to update qualifications and maintain proficiency at regular time intervals.

## **B. CONCLUSION**

The NMSP/PFP safety and health training programs meet the requirements of DOE VPP.

## **VIII. General Assessment**

### **A. SAFETY AND HEALTH CONDITIONS**

The DOE-VPP Onsite Review Team made observations during walk-around activities, both as a group and individually, and conducted interviews of approximately 100 NMSP/PFP personnel. Significant potential hazards exist in these facilities including potential exposures to radiological, asbestos, chemical hazards; however, procedures and processes have been developed and implemented to ensure the protection of employees as they bring these facilities to closure. It was readily apparent that hazard identification, and prevention and control measures were effectively implemented at the site.

### **B. SAFETY AND HEALTH PROGRAMS**

The DOE-VPP team found the applicant's safety and health program to be highly effective. The overall program is comprehensive and well communicated. According to feedback received during interviews, the site safety program has improved dramatically during the last one to two years due to efforts on the part of NMSP management working with employee representatives. The Team believes that the contractor has developed a strong S&H infrastructure and with proper guidance and funding this program is expected to continue to improve.



## **IX. Team Conclusion**

The Team concludes that the applicant has met and/or exceeded four of the five DOE-VPP tenets. The “Employee Involvement” element of DOE-VPP, as noted in the Executive Summary and documented in the body of this report, warrants further attention. The team encourages NMSP to utilize readily available opportunities to further develop and enhance employee involvement at this facility.

The onsite review team believes that NMSP could enhance employee involvement by considering the following:

- Enhancing safety training universally in employee hazard recognition;
- Enhancing general participation of more employees in walk around inspection activities; and
- Encouraging broader employee participation in AJHA meetings while emphasizing the need for allowing adequate time for employees to review and critique pending AJHA’s.

Accordingly, the Team’s technical opinion as documented in this report is presented to the DOE-VPP Program Administrator for consideration.



## Appendix: DOE-VPP Onsite Review Team

Name	Organization	Areas of Responsibility
Rama Sastry, Team Leader Rex Bowser (lead) Ron Oak (Observer)	EH-51, DOE, Germantown, MD EH-51, DOE, Germantown, MD HAMTC, Richland, WA	<b><u>Management Leadership</u></b> Commitment, Responsibility, Line Accountability, Resources, Planning, Visible Management Involvement, Records Review, IIR, LWDI Rates, Contract Workers, Site Orientation, Program Evaluation and Employee Notification
Rex Bowser Rama Sastry (lead)	EH-51, DOE, Germantown, MD EH-51, DOE, Germantown, MD	<b><u>Safety and Health Training</u></b> Employee Training, Supervisor Training, Manager Training
Mike Bronkowski (Observer) Rama Sastry (lead) Hans Showalter (Observer)	OSHA – Region X EH-51, DOE, Germantown, MD HAMTC, Richland, WA	<b><u>Worksite Analyses</u></b> Self Inspections, Preventative Maintenance, Pre-use/Pre-startup Analysis, Accident Investigations, Trend Analyses, Job Hazard Analysis, Hazard Tracking
John Connelly (lead) Dr. Marg Swint (Observer) Mike Bronkowski (Observer)	EH-51, DOE, Germantown, MD Richland, WA OSHA – Region X	<b><u>Employee Involvement</u></b> Degree and Manner of Employee Involvement, Safety and Health Committees, Employee Reports of Hazards (Worksite Analysis), Disciplinary System (Safety and Health Rules in Hazard Prevention and Control.
Roy Gibbs (lead) John Connelly	EH-51, DOE, Germantown, MD EH-51, DOE, Germantown, MD	<b><u>Hazard Prevention and Control</u></b> Comprehensive Surveys, Access to Certified Professionals (Professional Expertise), Methods of Hazard Control, Medical Programs, Radiation Protection Program, Positive Reinforcement (Safety and Health Rules), Personal Protective Equipment, Emergency Preparedness.

